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UNITED STATES DEPARTMENT OF COMMERCE
National Telecommunications and Information Administration
Washington, D.C. 20230

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January 14, 1993

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

Ms. Cheryl Tritt
Chief, Common Carrier Bureau
Federal Communications Commission
1919 M Street, N.W., Room 500
Washington, D.C. 20554

Dear Ms. Tritt:

This letter is in reference to the establishment of standards for the mobile satellite service (MSS) in the 1545-1559 MHz and 1646.5-1660.5 MHz bands, which are shared Federal government and non-government bands. The National Telecommunications and Information Administration (NTIA) and the Federal Aviation Administration (FAA) recommend that the Commission undertake a rulemaking proposing the incorporation of the enclosure, "Mobile Satellite Service System and Service Capabilities/Functions," into the Commission's service rules.

NTIA and the FAA have previously raised concerns with the Commission regarding protection of safety related communications and efficient use of the spectrum (see NTIA Reply Comments filed October 29, 1990, and letter from Richard Parlow to Ralph Haller of April 1, 1992; FAA Comments filed September 12, 1990, Reply Comments filed October 29, 1990, and letter from James Busey to Alfred Sikes of July 22, 1991). In these filings, both NTIA and the FAA have urged the Commission to consider adopting regulatory requirements addressing these concerns.

NTIA and the FAA believe that a sound underpinning to ensure protection of safety and distress communications in the MSS is necessary in light of the multiple satellite providers (AMSC, TMI, and INMARSAT), the many services and service providers, and the variety of equipment manufactured by multinational entities. As a leading proponent of generic MSS, the United States should ensure the protection of safety and distress communications.

The enclosure, which contains the minimum set of capabilities for MSS terminals and earth stations, was developed by the MSS Interagency Working Group (WG) jointly chaired by NTIA and the Commission with representatives from NTIA, the Commission, the FAA and the Coast Guard. The enclosure is the result of the WG's work involving the identification of MSS system and service capabilities/functions necessary to ensure compliance with Footnotes US308 and 729A of the National Table of Frequency Allocations.

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List A B C D E

We have been very pleased with the progress of the WG thus far. The WG, in conjunction with AMSC, has also been addressing transmitter and receiver standards that minimize the potential for interference and enhance efficient use of the spectrum. A recent INMARSAT bulletin pointed out that interference to INMARSAT mobile earth stations has greatly increased in recent years. This bulletin further substantiates the possible need for MSS receiver standards. We cannot afford an inventory of inadequately designed equipment that would undermine this emerging technology. To this end, we have encouraged the WG to continue investigating methods that ensure efficient use of the spectrum and submit its findings to NTIA and the Commission for possible incorporation in NTIA's Manual of Regulations and Procedures for Federal Radio Frequency Management and the Commission's service rules.

In summary, our increased understanding and awareness of the complexity and uncertainty of how the generic MSS will be implemented domestically and internationally has further strengthened our view concerning the need for clear and comprehensive service rules.

Thank you for your attention to this matter, which represents an important step in our cooperative efforts to ensure successful implementation of the mobile satellite service. If you have any questions or concerns, please contact one of us.

Sincerely,

Richard D. Parlow
Associate Administrator
Office of Spectrum Management
National Telecommunications and Information Administration

Gerald Markey
Manager
Spectrum Engineering Division
Federal Aviation Administration

Enclosure

cc: Chairman Alfred C. Sikes
Commissioner Barrett
Commissioner Duggan
Commissioner Marshall
Commissioner Quello
Secretary Donna Searcy

MOBILE SATELLITE SERVICE

SYSTEM AND SERVICE CAPABILITIES/FUNCTIONS*

Mobile Earth Stations (MESs) associated with the Mobile Satellite Service (MSS) operating in the 1545-1559 MHz and 1646.5-1660.5 MHz bands shall have the following minimum set of capabilities to ensure compliance with Footnote 729A and the priority and real-time preemption requirements imposed by Footnote US308.

1. All MES transmissions shall have a priority assigned to them that preserves the priority and preemptive access given to aeronautical distress and safety-related communications sharing the band.

2. Each MES with a requirement to handle distress and safety-related communications shall be capable of recognizing message and call priority identification when transmitted from its associated Land Earth Station (LES)**.

3. Each MES shall be assigned a unique terminal identification number that will be transmitted upon any attempt to gain access to a system.

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* In order to assure timely (priority and preemptive) access to the system for distress and safety-related communications, it is necessary that certain system requirements be satisfied. It is required that certain functions be under direct control of the system management process. These direct control functions (e.g., cessation of transmissions under certain conditions) are to be carried out by hardware/software capabilities without operator intervention and are to be performed in a timely fashion with only minimum delay. Additionally, it is required that the priority associated with each transmission and the terminal identification number be provided to the system manager to support the direct control functions.

**An LES is considered to include the functions of radio transmission and reception of signalling information and of communications, and to include the associated system management and control functions necessary for meeting these requirements. Implementations consisting of more than one facility that collectively provide the required capabilities are considered to constitute an LES for purposes of this definition.

4. After an MES has gained access to a system, the mobile terminal shall be under control of an LES and shall obtain all channel assignments from it.

5. All MESs that do not continuously monitor a separate signalling channel shall have provision for signalling within the communications channel.

6. Each MES shall automatically inhibit its transmissions if it is not correctly receiving a separate signalling channel or signalling within the communications channel from its associated LES.

7. Each MES shall automatically inhibit its transmissions on any or all channels upon receiving a channel-shut-off command on a signalling or communications channel it is receiving from its associated LES.

8. Each MES with a requirement to handle distress and safety-related communications shall have the capability within the station to automatically preempt lower precedence traffic.

Land Earth Stations (LESs) associated with the Mobile Satellite Service (MSS) operating in the 1545-1559 MHz and 1646.5-1660.5 MHz bands shall have the following minimum set of capabilities to ensure that the MSS System complies with Footnote 729A and the priority and real-time preemption requirements imposed by Footnote US308. It should be noted that the LES operates in the Fixed-Satellite Service (FSS) as a feeder-link for the MSS (Radio Regulations 67A) and that the following capabilities are to facilitate the priority and preemption requirements of the above footnotes. The FSS feeder-link stations fulfilling these MSS requirements shall not have any additional priority with respect to FSS stations operating with other FSS systems.

1. All LES transmissions to Mobile Earth Stations (MESs) shall have a priority assigned to them that preserves the priority and preemptive access given to distress and safety-related communications.

2. The LES shall recognize the priority of calls to and from MESs and make channel assignments taking into account the priority access that is given to aeronautical distress and safety-related communications.

3. The LES shall be capable of receiving the MES identification number when transmitted and verifying that it is an authorized user of the system to prohibit unauthorized access.

4. The LES shall be capable of transmitting channel-assignment commands to the MESs.

5. The communications channels used between the LES and the MES shall have provision for signalling within the channel, for an MES which does not continuously monitor the LES signalling channel during the time of a call.

6. The LES shall automatically inhibit all transmissions to MESs to which it is not transmitting a signalling channel or signalling within the communications channel.

7. The LES shall be capable of transmitting channel-shut-off commands to the MESs on signalling or communications channels.

8. An LES with a requirement to handle distress and safety-related communications shall have the capability within the station to automatically preempt lower precedence traffic.

9. Each LES shall be capable of automatically turning off one or more of its associated channels.